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EXAMINER	
WU, QING YUAN	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,309	MOORE, MARK JUSTIN	
	Examiner	Art Unit	
	Qing-Yuan Wu	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-22 and 24-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-22 and 24-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-5, 7-22 and 24-34 are pending.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> It does not state that the person making the oath or declaration believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

Claim Objections

3. Claims 5 and 22 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 3 and 20. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification failed to provide proper antecedent basis for the limitation "computer-readable medium" recited in claims 18-34.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following claim language is indefinite:

i. As per claim 5, it is uncertain whether “a message pool interface”, “a request", "a first task object”, etc. refers to the same limitation as recited in claim 1, lines 9-17. If they are the same or in alternative (see claim objections above) then “said” or “the” should be used and “the message pool interface”, “the request", "the first task object”, etc. should be used throughout the claims. For examination purposes, these limitation are treated the same as those recited in claim 1. Claim 22 is rejected for the same reason as claim 5 above.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 18-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

9. Claim 18, since applicant failed to specifically defined or described "a computer-readable medium" (see specification objection above), the examiner is giving the broadest reasonable interpretation to the limitation as including any computer-readable media known in the art including statutory (i.e. computer memories, hard disks, etc.) and non-statutory embodiments (i.e. carrier waves), therefore, the claim is rejected under 35 U.S.C. 101 because it is not limited to statutory embodiments. Claims 19-34 are rejected for failing to cure the deficiencies of parent claim 18.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-5, 7-12, 16-22, 24-29 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Applied Operating System Concepts" to Silberschatz et al. (hereafter Silberschatz) in view of Coffman et al. (US Patent 6,553,438).

12. Silberschatz and Coffman were cited in the previous office action.

13. As to claim 1, Silberschatz teaches a method for managing shared resources in a computer system, comprising:

establishing and registering a plurality of objects in response to requests from hardware or software associated with the computer system [§22.8.1; p. 753 ¶1];

the objects including at least one type, at least one attribute, and a handle [§22.3.2 ¶2; §22.4.1 ¶1; §22.8.1];

establishing a plurality of message pool objects, wherein the plurality of message pool objects comprise pools of free messages that can be allocated [§4.5.2.2 ¶1; §4.5.4]; and

manipulating the plurality of objects to effect processing and exchange of information [§18.2 ¶1 – 2];

receiving, at a message pool interface, a request by a first task object interface for a message allocation;

allocating a message from the free message pool to the first task object;

sending the message from the first task object interface to a second task object interface;

[receiving and sending message via a mailbox *object* for exchanging messages among processes, §4.5.2.2; §4.5.4].

14. Silberschatz does not specifically teach performing processing by the second task object in response the message receipt, returning the message to the first task object interface upon completion of processing, and returning the message from the first task object interface to the message pool interface. However, Coffman teaches performing processing of message/descriptor by transferring data in response to receipt/passing of descriptor control by a user, returning control of message/descriptor to the user when transferring of data is completed

and returning control of the descriptor to a message resource pool by the user [col. 8, line 64-col. 9, line 14; Fig. 7, S6-S12].

15. It would have been obvious to a person of ordinary skill in the art at the time the invention was made knowing the capability of exchanging (send and receive) messages between computer processes via a message queue as being taught by Silberschatz [§4.5.2.2; §4.5.4] to use the message queue to explicitly communicate requests and responses as being taught by Coffman [col. 8, line 64-col. 9, line 14; Fig. 7, S6-S12] to achieved the predictable result of communication between processes.

16. As to claim 2, Silberschatz as modified teaches:

establishing a plurality of task objects [§22.3.2 ¶2 – 5];

allocating messages from at least one free message pool object in response to requests from one or more task objects, wherein the messages include blocks of information that can be passed to other task objects [§4.5.2.2 ¶1; §4.5.4; Coffman, Fig. 3];

exchanging the messages between the plurality of task objects, thereby effecting requests for processing [§4.5.2.2 ¶1; §4.5.4; Coffman, Fig. 7, S6-S9]; and

returning the messages to the free message pool object upon completion of processing [§4.5.2.2 ¶1; §4.5.4; Coffman, Fig. 7, S12].

17. As to claim 3, Silberschatz as modified teaches:

the plurality of task objects include at least a task type and an interface type, the interface type enabling request and release of messages [p. 111 ¶1 – 2]; and

the plurality of message pool objects include at least a pool type and an interface type [§4.5.2.2 ¶1; p. 111 ¶1 – 2].

18. As to claim 4, Silberschatz as modified teaches exchanging the messages between the plurality of task objects, thereby effecting requests for processing further comprises at least one of: putting a message to an interface, getting a message from an interface, and waiting for a message to arrive on an interface [§4.5.3; Coffman, col. 6, lines 29-39].

19. As to claim 5, Silberschatz as modified teaches: receiving, at a message pool interface, a request by a first task object interface for a message allocation; allocating a message from the free message pool to the first task object; sending the message from the first task object interface to a second task object interface; performing processing by the second task object in response the message receipt; and returning the message to the message pool interface upon completion of processing [§4.5.2.2 ¶1; §4.5.4; Coffman, Fig. 7].

20. As to claim 7, this claim is rejected for the same reason as claim 5 above. In addition, Silberschatz as modified teaches sending an arm interrupt message from the first task object interface to a interrupt object interface; disabling an interrupt with the arm interrupt message by the interrupt object; and returning the message to the first task object interface [§4.5.4; p. 407 ¶1 – 2; p. 409 ¶3 – 4].

21. As to claim 8, Silberschatz as modified teaches: defining a plurality of top-level tasks from the plurality of objects; providing each of the plurality of top-level tasks with a private memory resource; enabling access of the private memory resource to any subtask created by a top-level task [§4.3.1 ¶1 – 2].

22. As to claim 9, Silberschatz as modified teaches: allocating a memory space to a parent task; establishing at least one subtask to the parent task; enabling access of the memory space to the at least one subtask; and preventing access of the memory space to tasks not associated with the parent task [§4.3.1 ¶1 – 2; p. 37 ¶1].

23. As to claim 10, Silberschatz as modified teaches: allocating a memory space to a subtask; and preventing access of the memory space to a parent task of the subtask [§4.3.1 ¶1 – 2; p. 37 ¶1].

24. As to claim 11, Silberschatz as modified teaches: establishing an object instance for each of the plurality of objects; and establishing an object handle for each object instance, the object handle referencing a data structure used to implement the object instance [§22.3.2 ¶2; §22.4.1].

25. As to claim 12, Silberschatz as modified teaches the object handle is a pointer value [§22.4.1 ¶].

26. As to claim 16, Silberschatz as modified teaches:

organizing the plurality of objects as files in a global file system, wherein files in the system contain references to objects in memory [§11.1.2 ¶1; Fig. 11.2; §18.2]; and

referencing each of the plurality of objects in relation to a plurality of top level object types [§11.3.3; §4.3.1 ¶1].

27. As to claim 17, Silberschatz as modified teaches the plurality of top level object types include tasks, interfaces, pools, mutexes, semaphores, interrupts, and memory [§18.2; §22.3.2 ¶2 – 5].

28. As to claims 18-22, 24-29 and 33-34, these claims are rejected for the same reason as claims 1-5, 7-12 and 16-17 above.

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

30. Claims 13-15 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silberschatz and Coffman as applied to claims 1, 11, 18 and 28 above, in view of "JAVA 1.1 Developer's Guide" to Jaworski.

31. Jaworski was cited in the previous office action.

32. As to claims 13 and 30, Silberschatz and Coffman do not specifically teach derived object types as claimed. However, Silberschatz, Coffman and Jaworski in combination teaches: establishing at least one derived object type, based upon the object instance; establishing object attributes for the at least one derived object type; and accessing any established object attributes with the object handle [Silberschatz, §22.3.2 ¶2; §22.4.1 ¶1; Jaworski, p. 91 ¶7]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine these teachings because they are in the same field of endeavor of Java and programming techniques.

33. As to claims 15 and 32, these claims are rejected for the same reason as claims 11, 13, 28 and 30 above.

34. As to claims 14 and 31, Silberschatz, Coffman and Jaworski teach appending data structures associated with the at least one derived object type to the data structure used to implement the object instance [Jaworski, p. 94 ¶3].

Response to Arguments

35. Applicant's arguments filed on O4/21/09 have been fully considered but are moot in view of the new ground of rejection.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qing-Yuan Wu whose telephone number is (571)272-3776. The examiner can normally be reached on 8:30am-6:00pm Monday-Thursday and alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung (Sam) Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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